

• COLORADO RIVER •
AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT

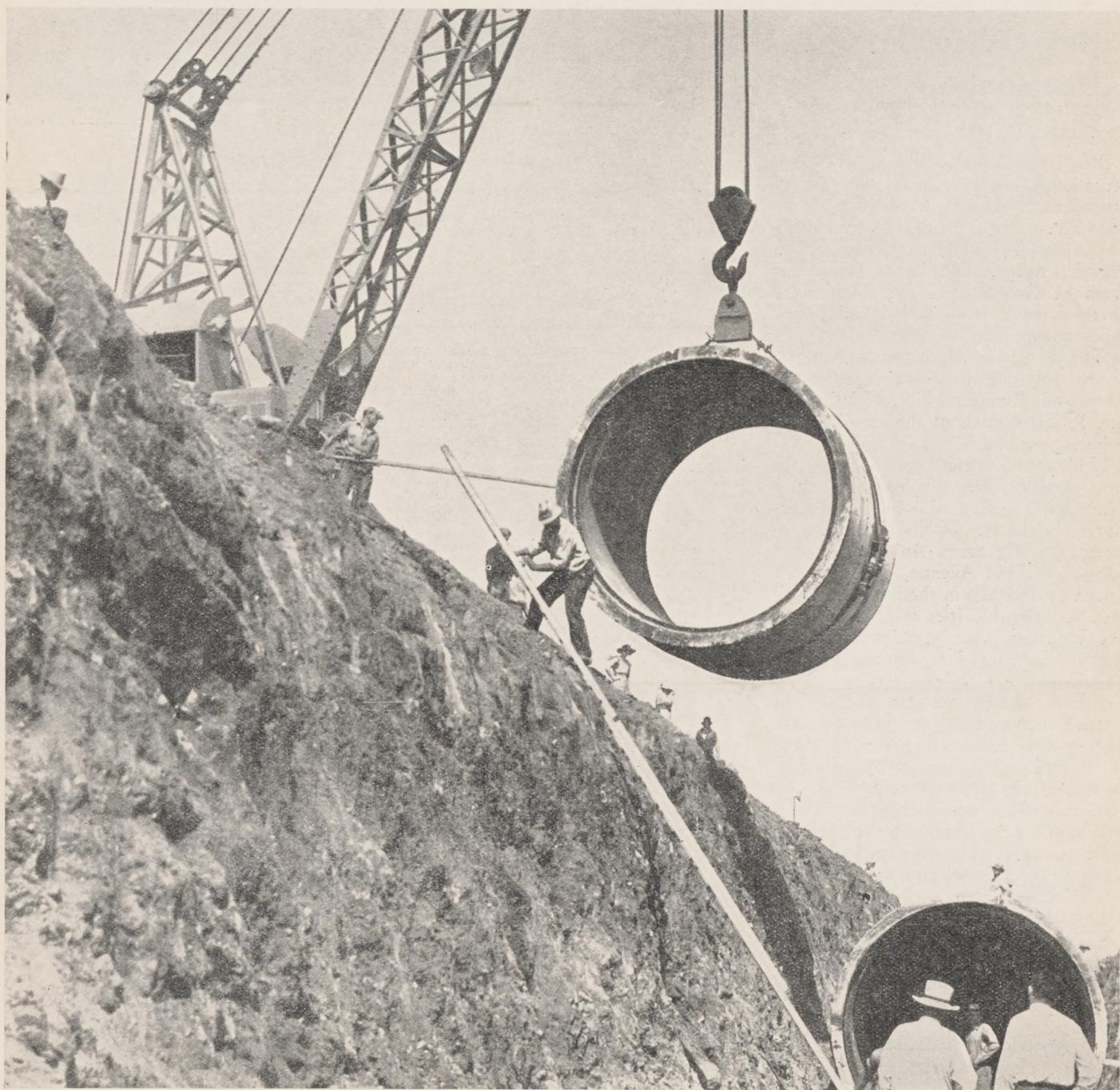


OF SOUTHERN CALIFORNIA

Vol. III.

JULY 8, 1936

No. 13



United Concrete Pipe Corporation crews push forward with Schedule 8 of the Aqueduct distribution system, along Foothill Boulevard, near San Dimas.

• COLORADO RIVER •
AQUEDUCT NEWS
 THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LOS ANGELES, CALIFORNIA

Published twice monthly in the interest of Field and Office Workers on the Colorado River Aqueduct, and for the information of all other citizens of the Metropolitan Water District.

Vol. III July 8, 1936 No. 13

Bids Called On New Distribution Pipe Line

Preparing for the launching of construction of three new links in the distribution system which will bring Colorado River water to the thirteen member cities of the Metropolitan Water District, specifications were issued last week by General Manager Weymouth covering four and one-half additional miles of pipe line.

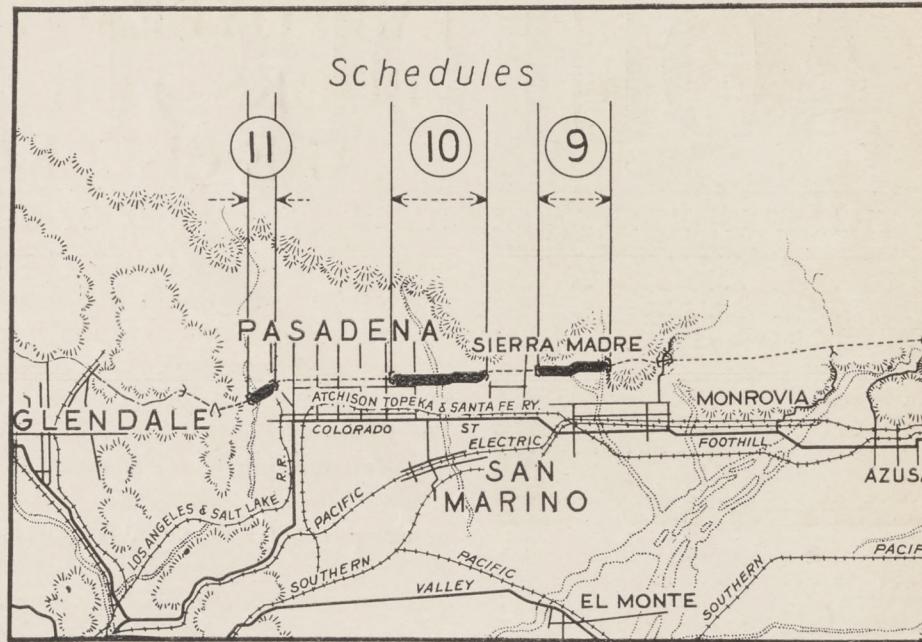
The work, on which bids will be received July 30, will link together the Monrovia, Pasadena, Sierra Madre and San Rafael tunnels of the aqueduct distributing system.

Under the District's specifications, the new sections are divided into three schedules, the first of which lies principally in the city of Sierra Madre between the Big Santa Anita Wash and Mountain Trail Avenue. The second is situated principally in the unincorporated area between the cities of Sierra Madre and Pasadena, and the third crosses the Arroyo Seco in the western part of Pasadena.

All of the new concrete pipe will be 9 feet 8 inches in diameter. On two and three-quarter miles of the work bids will be received only on precast concrete construction. On the remaining distance (Schedule 9) however, alternative bids will be taken covering both the steel and concrete types of construction. The diameter of the steel pipe specified is 10 feet 3 inches.

Launching of the new units will bring a total of 62 miles of the 150-mile distributing system under construction, in addition to the 242-mile main aqueduct extending all the way to the Colorado River.

G. C. Kitson, formerly instrument man on Division 6, has been transferred to Division 1.



New pipe line sections on the aqueduct distribution system on which bids will be received July 30. (See Column 1.)

Directory

BOARD OF DIRECTORS

W. P. Whitsett, Chairman

Franklin Thomas, Vice-Chairman

S. H. Finley, Secretary

Anaheim.....E. P. Haggood

Beverly Hills.....Arthur Taylor

Burbank.....J. L. Norwood

Compton.....Warren W. Butler

Fullerton.....Walter Humphreys

Glendale.....Bernard Brennan

Long Beach.....William M. Cook

Los Angeles.....J. Eisner

Los Angeles.....Perry H. Greer

Los Angeles.....Otto J. Emme

Los Angeles.....D. W. Pontius

Los Angeles.....John R. Richards

Los Angeles.....Victor H. Rosetti

Los Angeles.....W. P. Whitsett

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Santa Ana.....S. H. Finley

Santa Monica, Edmond S. Gillette

Torrance.....Charles T. Rippy

Charles H. Toll, Treasurer

D. W. Pontius, Controller

GENERAL STAFF

General Manager and Chief

Engineer.....F. E. Weymouth

Asst. Gen. Mgr.....

.....J. L. Burkholder

Asst. Chief Engineer.....

.....Julian Hinds

General Counsel.....

.....James H. Howard

Asst. Gen. Counsel.....

.....Arthur A. Weber

Asst. Controller.....J. M. Luney

General Supt.....James Munn

Chief Elec. Engineer.....

.....J. M. Gaylord

Asst. to Gen. Mgr.....

.....Don J. Kinsey

Secy. to Gen. Mgr.....

.....Elisabeth von Hagen

DIVISION ENGINEERS

Divisions 1 & 2.....W. E. Whittier

Divisions 2 & 3.....John Stearns

Division 4.....R. C. Booth

Divisions 5 & 6.....J. B. Bond

Distribution.....R. B. Diemer

Transmission.....Robert N. Allen

SUPERINTENDENTS

(Main Aqueduct Tunnels)

Colorado River, Copper Basin

and Whipple Mt. Tunnels, Walsh

Construction Co., W. A. Huntington

and L. M. Ramey, Tunnel

Superint. Supts.

Coxcomb Tunnel and Iron Mt.

shaft, Winston Bros., E. A.

Bernard, Gen. Supt.; F. T. Hillman and R. V. Johnson, Tunnel Supts.

Iron Mt. Tunnel, West Portal, Utah Construction Co., Ben Arp, Gen. Supt.

East Eagle Mt. Tunnel and West Eagle Mt. Tunnel, east portion, Broderick & Gordon, C. J. Kavanagh, Gen. Supt.

Coachella Tunnel, Dist. Force Acct., R. C. Booth, Gen. Supt.

Fargo, East Coachella Tunnel, concrete, V. T. Davis, Supt.

Pushawalla and Berdo, East Coachella Tunnel, concrete, John Austin, Supt.

Thousand Palms, Lyle McMillen, Gen. Foreman.

Wide Canyon and Long Canyon, concrete, Kenneth MacIssac, Supt.

Morongo, R. Ferry, Supt.

San Jacinto Tunnel, District Force Acct., B. C. Leadbetter, Gen. Supt., A. L. Simpson, Neil O'Donnell and C. E. Sides, Tunnel Supts.; Chas. F. Thomas, Jr., Gen. Foreman.

Valverde Tunnel, Dravo Contr. Co., R. W. Remp, Gen. Supt.; H. C. Richardson, Asst. Gen. Supt.; Fred Youmans, Tunnel Supt.

John Will, Concrete Supt.

(Distribution Tunnels)

Monrovia tunnels Nos. 1, 2 and 3, West Construction Co., H. E. Carlton, Gen. Supt.; O. V. Humason, Peter Brisbois and Angus MacDonnell, Tunnel Supts.

Sierra Madre tunnel, J. F. Shea Co., Inc., Edmund H. Shea, Supt.

Pasadena tunnel, San Rafael tunnels Nos. 1 and 2, and Monrovia tunnel No. 4, L. E. Dixon Co., Bent Bros., Inc., and Johnson, Inc., H. J. King, Gen. Supt.; S. D. Hackley and P. C. Guinn, Supts.

(Canal, Siphon, Conduit)

Schedules Nos. 1, 1A, 1B, 10, 10A, 10B, 11, 11A, 11B, 11C, 13, 13A, and 13B, Aqueduct Construction Co., C. M. Elliott, Gen. Supt.; Charles Harlowe, J. J. Excav. Supt., and Charles Clapp, Supt.

Schedules Nos. 2, 2A, 2B, 3, 3A, 3B, 7 and 7A, Barrett &

Hilp and Macco Corp.; H. W. McKinley, Supt.

Schedules Nos. 4, 4A, 5 and 5A, Jahn & Bressi Construction Co., Joseph Muscolo, Gen. Supt.; Dominic Bressi, Asst. Gen. Supt.

Schedules Nos. 6, 8, 8A and 8B, Clyde W. Wood and M. J. Bevanda, A. F. Weesner, Gen. Supt.; L. L. Green, Excav. Supt.; A. V. Fisher and V. S. Price, Concrete Supts.

Schedules Nos. 9, 9A, 9B and 9C, The Utah Construction Co., Ben Arp, Gen. Supt.; E. C. Caldwell, Excav. Supt.

Schedules Nos. 12 and 12A, Three Companies, Inc., C. J. Kavanagh, Supt.

Schedules Nos. 14, 15 and 16, Thompson-Starrett Co., Inc., Arthur Langevin, Gen. Supt.; Rodney Smith, Resident Engineer; William Hayes, Excav. Supt.

Schedule 17, Dist. Force Acct., H. Hjalmarson, Gen. Foreman (Fan Hill) and P. J. Lynch, Gen. Foreman (Wide Siphon).

Schedule 18J, Morrison-Knudsen, J. O. Young, Gen. Supt.

Schedules Nos. 18, 19 and 20, J. F. Shea Co., Inc., H. F. Rennebohm, Supt.

Schedules Nos. 20A, 20B, 20C, 21, 22 and 23, The Griffith Co., Harry Davis, Supt.

(Distribution Pipe Line)

Schedules No. 4P & 5P, American Concrete & Steel Pipe Co., Wm. A. Whiting, Gen. Supt.; D. H. Rankin, Plant Supt.; J. C. Connell, Const. Supt.

Schedules 6P & 7P, J. F. Shea Co., Inc., Gilbert Shea, Gen. Supt.; Don Lind, Plant Supt.

Schedule 8P, United Concrete Pipe Corp., John Huber, Plant Supt., Charles Johnston, Const. Supt.

Schedules 2B & 2S, Western Pipe & Steel Co., L. L. White, Supt.

(Dams)

Cajalco dam, The Griffith Co., Harry Davis, Gen. Supt.

Parker dam, Six Cos., Inc.

Frank Crowe, Gen. Supt.; E. A. Moritz, Eng. in charge.



Ira R. Pontius

CHECK AND DOUBLE CHECK

(EDITOR'S NOTE: Though pay days are red letter days to most aqueduct employees, very few have any understanding of the machinery which is required to get the right check in the right hands at the right time. So that aqueduct workers could have a clearer idea of what has to happen before they can step up to the pay window for that little slip of paper, the NEWS has prevailed upon Ira R. Pontius [the man who is welcome everywhere] to describe the workings of his office.)

By IRA R. PONTIUS

At present there are nearly 8,000 persons employed on the Colorado River Aqueduct, either on force account work or by companies or individuals who have contracts with the Metropolitan Water District. Payrolls for both classes of employment total more than \$1,000,000 per month, making it a large task to prepare them and make a proper distribution of checks within a given period.

Employees of the District, representing approximately half the total payroll, are paid twice each month directly by the M. W. D. Because of the great number of men involved, it became necessary to set aside certain days to be known as "pay days" on different sections of the job.

The Los Angeles offices are paid on the 15th and 30th of each month, while pay day for the Banning Office, Division No. 1 at the Colorado River, Division 2 near Rice, Division 3 near Desert Center, Division 4 at Berdoo Camp near Indio, Division 5 at Banning, Division 6 at Perris, the Distribution division from Cajalco to the City of Los Angeles, the San Jacinto force building

(Continued on Page 6.)

EMPLOYEES' ASSOCIATION BOOKS FOR YEAR 1935-36 ARE CHECKED BY AUDITOR

Of interest to all members of the Metropolitan Water District Employees' Association will be the following report from Ernst & Ernst, accountants and auditors, who have just completed an examination of the books and accounts of the Association:

July 3, 1936.

The Board of Control, Employees' Association, The Metropolitan Water District of Southern California.

We have examined the data pertaining to the recorded cash receipts and disbursements of THE BOARD OF CONTROL, Employees' Association of the Metropolitan Water District of Southern California, for the fiscal year ended June 30, 1936, and submit below a summary of these transactions.

Cash on hand and on deposit July 1, 1935.....	\$ 677.61
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Cash Receipts

Pay roll deductions remitted by the Metropolitan Water District of Southern California.....	\$18,206.97
Dividend on group insurance.....	2,804.44
Receipts from dance given by the Association.....	685.30
Sundry	132.76
	21,829.47
	\$22,507.08

Cash Disbursements

For premiums on group insurance policy.....	\$17,683.45
Dividend on group insurance paid to members.....	2,690.75
Expenses of dance given by the Association.....	668.75
Salary of clerk	200.00
Sundry	23.06
	21,266.01

Cash on hand and on deposit June 30, 1936..... \$ 1,241.07

Recorded cash receipts from the District, representing pay roll deductions for insurance premiums, were balanced by us to deductions made from the employees' compensation as shown by District vouchers. Disbursements by the Association for group insurance premiums were substantiated by receipted invoices from the insurance company and other data.

The dividend received from the insurance company during the year amounted to \$2,804.44. The Association, in turn, paid a dividend to its members at the rate of fifty cents per month for each month that the member paid premiums during the calendar year of 1935. We understand that this disbursement was made to all insured members of the Association employed by the District at the time of the disbursement and to all those who had been insured but were no longer employed by the District where it was possible to locate them.

Recorded receipts from the Association dance approximately equaled expenses.

We verified funds on deposit in the amount of \$1,238.57 by direct correspondence with the depositary bank.

Based upon the records examined and information obtained by us and subject to the comments contained herein, it is our opinion that the funds of the Association have been properly accounted for during the period under review.

(L.S.)

ERNST & ERNST, Certified Public Accountants.

CONSTRUCTION

TUNNELS

TUNNEL EXCAVATION (MILES)

Aqueduct	85.72	6.34
Distribution	12.53	3.70
Total	98.25	10.04

June 1 to June 30, 1936

* TUNNEL LINING (MILES)		
	Completed	Remaining
Aqueduct	48.62	43.44
Distribution	1.33	14.85
Total	49.95	58.29

* Arch considered to equal 0.9 of completed section.

TUNNEL PROGRESS

CONTRACTOR	TUNNEL	LENGTH IN FEET	EXCAVATION IN FEET					LINING IN FEET				
			NUMBER OF SHIFTS	AVERAGE PER SHIFT	THIS PERIOD	TOTAL TO DATE	REMAIN- ING	ARCH OR INVERT	NUMBER OF SHIFTS	AVERAGE PER SHIFT	THIS PERIOD	TOTAL TO DATE

AQUEDUCT—CONTRACT

AQUEDUCT — FORCE ACCOUNT

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	EAST COACHELLA	(96,605)		Completed	(96,605)	0	Arch Invert Arch Invert Arch Invert Arch Invert Arch Invert						
	East Portion	42,910		Completed	42,910	0						28,512	14,398
	West Portion	53,695		Completed	53,695	0		14	317.0	4,438	14,460	28,450	
	1000 PALMS NO. 1 (From W.P.)	16,058		Completed	16,058	0		78	73.0	5,696	29,193	24,502	
	1000 PALMS NO. 2	3,838		Completed	3,838	0				0	53,695	53,695	
	WIDE CANYON NO. 1	14,305		Completed	14,305	0		24	47.6	1,143	1,256	14,802	
	WIDE CANYON NO. 2	848		Completed	848	0				0	3,838	0	
	SEVEN PALMS (From E. Prtl)	4,810		Completed	4,810	0				0	3,838	0	
	(From W. Prtl)			Completed	11,920	0				0	14,305	0	
	LONG CANYON (From E. Prtl)	15,305		Completed	15,305	0		45	55.1	2,479	16,730	0	
	BLIND CANYON	6,836		Completed	6,836	0				0	2,481	12,824	
	MORONGO NO. 1	5,712		Completed	5,712	0				0	0	6,836	
	MORONGO NO. 2	1,902	62	Completed	1,902	0				0	0	5,712	
	SAN JACINTO	(68,639)		14.4	896	(35,181)	(33,458)					0	1,902
	Cabazon Shaft to East Portal	8,653	90	4.9	442	7,763						0	(68,639)
	Cabazon to Lawrence	26,817	90	0.3	30	9,036						0	
	Cabazon Pioneer	—	90	2.3	210	249						0	
	Lawrence Adit	5,651	90	3.3	296	794						0	
	Potrero Pioneer	—	27	5.7	155	155						0	
	Potrero to Lawrence	17,670	90	4.1	373	2,883						0	
	Potrero Shaft to West Portal	15,499		Completed	15,499	0						0	
	TOTALS	Ft. Miles	246,778 46.74	332	5.2	1,741 (0.33)	213,320 (40.40)	33,458 (6.34)	Arch Invert	161 3	123.2 176.3	13,756 529	97,163 20,223

DISTRIBUTION—CONTRACT

GRIFFITH CO.	CAJALCO OUTLET	2,565	56	11,2	630	716	1,849				0	2,565	
WEST CONSTRUCTION CO.	MONROVIA NO. 1 (From W.P.)	7,868		Completed		7,868	0			4	20.0	80	
	MONROVIA NO. 2 (From Jct.1)	940		Completed		940	0				80	7,715	
	MONROVIA NO. 3	(32,105)				(22,369)	(9,736)				0	855	
	East from Adit	11,340	86	11.2	966	8,308	3,032				0	(32,069)	
	West from Adit }		86	3.7	319	3,532 }							
DIXON, BENT BROS. & JOHNSON	From West Portal }	20,765	86	10.5	901	10,529 }	6,704						
	MONROVIA NO. 4 (From W.P.)	8,096	78	0.2	14	3,083	5,013				0	8,084	
J. F. SHEA CO., Inc.	SIERRA MADRE (From E. Prtl)	6,700		Completed		6,700	0			78	19.8	1,542	
DIXON, BENT BROS. & JOHNSON	PASADENA EAST	5,546		Completed		5,546	0			80	18.6	1,485	
	PASADENA (From West Portal)	12,140		Completed		12,140	0				3,275	2,271	
	SAN RAFAEL No. 1 (From W.P.)	4,040		Completed		4,040	0				0	12,140	
	SAN RAFAEL No. 2 (From E.P.)	5,669	78	9.5	742	2,715	2,954				0	4,040	
	TOTALS Ft. Miles	85,669 (16.23)	470	7.6 (0.68)	3,572 (12.53)	66,117 (3.70)	19,552		Full Section	162	19.2 (0.59)	3,107 (1.33)	7,035 (14.85)
												78,428 (14.85)	

PROGRESS

CANAL, CONDUIT AND SIPHON (MILES)
Completed Remaining

Excavation 112.38 33.40
Concrete 105.17 39.57
Back Fill 47.39 35.16

CANAL, CONDUIT, SIPHON & PIPE LINES

June 13 to June 27, 1936

DISTRIBUTION PIPE LINES (MILES)
Completed Remaining

Excavation 4.03 37.56
Concrete 3.83 37.76
Back Fill 2.34 39.26

AQUEDUCT

SCHED. NO.	CONTRACTOR	FEATURES	Length In Feet	EXCAVATION—Feet			CONCRETE—Feet			BACKFILL—Feet			
				Period	To Date	Remain'g	Period	To Date	Remain'g	Period	To Date	Remain'g	
1	AQUEDUCT CONSTR. C.	Conduit and Siphons	22,025	0	22,025	0	0	22,025	0	0	16,645	5,380	
2	BARRETT & HILP AND MACCO CORP.	Conduit and Siphons	30,569	563	27,455	3,114	0	24,584	5,985	0	22,400	8,169	
3		Canal and Siphons	40,700	0	37,895	2,805	0	32,005	8,695	0	1,390	11,255	
4	JAHN & BRESSI CONSTR. CO.	Canal and Siphons	53,218	0	53,218	0	0	53,218	0	0	1,992	1,083	
5		Canal and Siphons	53,588	0	53,588	0	0	53,588	0	0	2700	1,320	
6	WOOD AND BEVANDA	Siphon	15,521	0	15,521	0	0	15,521	0	0	13,043	2,478	
7	BARRETT & HILP & MACCO CORP.	Canal and Conduit	27,707	0	27,707	0	0	27,707	0	0	12,170	0	
8	WOOD AND BEVANDA	Canal and Siphons	49,579	0	49,579	0	0	49,174	405	0	7,090	800	
9	UTAH CONSTRUCTION CO.	Canal, Conduit and Siphons	47,399	0	45,788	1,611	0	44,074	3,325	0	793	5,442	
10	AQUEDUCT CONSTR. CO.	Canal and Siphons	44,505	0	44,505	0	0	44,505	0	0	4,694	156	
11		Canal, Conduit and Siphons	44,002	1,541	2,573	41,429	0	0	44,002	0	0	0	10,322
12	THREE COMPANIES, INC.	Conduit and Siphons	32,977	0	28,789	4,188	0	24,652	8,325	0	23,030	9,947	
13	AQUEDUCT CONSTR. CO.	Canal, Conduit and Siphons	31,965	0	23,496	8,469	0	11,782	20,183	0	0	3,665	
14		Conduit and Siphons	32,366	0	32,366	0	0	32,366	0	835	29,550	2,816	
15	THOMPSON-STARRATT CO.	Conduit and Siphons	35,849	0	423	35,426	0	35,446	0	0	35,849	0	
16		Conduit and Siphons	19,359	0	0	19,359	0	0	19,359	0	0	19,359	0
17	M. W. D.—FORCE ACCT.	Conduit and Siphons	21,957	392	14,274	7,683	423	12,573	9,384	559	10,265	11,692	
18	J. F. SHEA CO., INC.	Conduit and Siphons	27,537	0	13,900	13,637	0	13,660	13,877	3,767	13,600	13,937	
18J	MORRISON-KNUDSEN CO.	Siphons	9,809	0	9,809	0	0	9,809	0	0	9,809	0	
19	J. F. SHEA CO., INC.	Conduit and Siphons	37,464	0	0	37,464	0	0	37,464	0	0	37,464	0
20		Siphons	18,618	0	18,618	0	0	18,618	0	0	18,618	0	
20 A & B	GRIFFITH COMPANY (Outlet Channel Unlined)	Siphons	735	0	705	30	0	0	735	0	0	735	0
21		Siphons	14,613	0	14,613	0	0	14,613	0	0	14,019	594	
22		Siphons	7,229	0	7,229	0	292	7,229	0	500	7,100	129	
23		Conduit and Outlet Channel	38,695	91	38,260	435	45	33,145	0	1,075	31,657	1,488	
3	WINSTON BROS. CO. & WILLIAM C. CROWELL	Siphon (Gene Inlet)	1,877	10	1,632	245	0	589	1,288	0	230	1,568	
4		Siphon (Copper Basin)	450	0	0	450	0	0	450	0	0	0	0
		TOTALS	760,313	2,597	583,968	176,345	760	545,840	208,923	6,736	240,795	185,648	

DISTRIBUTION PIPE LINES

1	AMER. CONC. & STL. PIPE CO.	Precast Concrete Pipe	12,227		0	12,227		0	12,227		0	12,227
2	WESTERN PIPE & STL. CO.	Welded Steel Pipe	54,530	3,350	6,140	48,390		0	54,530		0	54,530
3	AMER. CONC & STL. PIPE CO.	Precast Concrete Pipe	20,124	0	20,124		0	20,124		0	20,124	
4		Precast Concrete Pipe	25,867	2,110	13,357	12,510	4,685	15,828	10,039	2,217	12,300	13,567
5		Precast Concrete Pipe	24,895			24,895	0	0	24,895			24,895
6	J. F. SHEA CO., Inc.	Precast Concrete Pipe	27,348	280	280	27,068	384	576	26,772		0	27,348
7	UNITED CONC. PIPE CORP.	Precast Concrete Pipe	30,044	0	30,044		3,792	3,804	20,721		0	30,044
		TOTALS	219,560	6,909	21,258	198,302	8,861	20,208	199,352	2,217	12,300	207,260

MISCELLANEOUS CONSTRUCTION

June 13 to June 27, 1936
AQUEDUCT PUMPING PLANTS AND APPURTENANT WORKS

CONTRACTOR	FEATURES	EXCAVATION—Cu. Yds.				CONCRETE—Cu. Yds.				STEEL—Tons			
		Est.Quan.	Period	To Date	%	Est.Quan.	Period	To Date	%	Est.Quan.	Period	To Date	%
WINSTON BROS. CO. & WILLIAM C. CROWELL	Intake Plant	102,400	26,000	74,630	72.9								
WOOD AND BEVANDA	Gene Plant	92,600	300	74,470	80.4	13,370	0	961	7.2				
L. E. DIXON CO.	Iron Mt. Plant	358,700	14	224,245	62.5	19,897	0	55	0.3				
NOT AWARDED	Eagle Plant	227,695	11,550	37,544	16.5	21,122	0	650	18.9	2,160	0	37.4	1.7
	Hayfield Plant									0	1,516		0
	TOTALS			41,464	410,889			0	1,516				37.4

BOULDER TRANSMISSION LINE—FRITZ ZIEBARTH

FEATURES	Length-Line MI.	Period	To Date	Percent
Footings Constructed	237.0	0.6	157.1	66.3
Towers Erected	237.0	8.8	25.0	10.5
Wire Strung	237.0	0	0	0

TELEPHONE LINES—NEWBERRY ELECTRIC CO.

FEATURES	Length-Line MI.	Period	To Date	Percent
Converting Spur to Truck Line	7.8	0	7.8	100
Constructing New Trunk Line	139.5	0	139.5	100

PARKER RESERVOIR—SIX COMPANIES, INC.

FEATURES	Est. Quan.	Period	To Date	Percent
Diversion Tunnels—Excav.	3,463 Ft.	0	3,463	100
Diversion Tunnels—Concrete	3,463 Ft.	784	1,290	37.4
Dam Excavation	1,391,000 C.Y.	50,824	138,264	10.0
Dam Concrete	277,900 C.Y.	0	0	0

CAJALCO RESERVOIR—GRIFFITH COMPANY

FEATURES	Est. Quan.	Period	To Date	Percent
Diversion Tunnel	2,000 Ft.		0	2,000
Dam & Dike Excavation	651,000 C.Y.	21,290	161,815	24.9
Dike Fill	4,113,000 C.Y.	130,000	2,721,280	66.2
Dam Fill	3,410,000 C.Y.	42,600	62,400	1.8

COMPLETED FEATURES

TUNNELS					
CONTRACTOR	TUNNEL	Length in Miles	Work Started	Work Completed	
MORRISON-KNUDSEN CO.	Mecca Pass, No. 1, 2 & 3	1.13	7-17-33	2-10-35	
WEST CONSTRUCTION CO.	Whitewater Nos 1 & 2	1.94	7-18-33	4-15-35	
SHOFNER & GORDON	Hayfield No. 2	1.03	7-8-33	7-27-35	
HAMILTON & GLEASON	Bernasconi	1.18	4-19-33	11-21-35	
J. F. SHEA CO., INC.	Cottonwood	3.81	6-14-33	12-29-35	
HUNKIN-CONKEY CON. CO.	Hayfield No. 1	1.84	10-21-33	1-9-36	
DIXON & BENT BROS.	W. Eagle-W. Por.	2.02	9-8-33	3-12-36	
	TOTALS	12.95			

CONTRACTOR	FEATURE AND NAME OR SCHEDULE	Length in Miles	Work Started	Work Completed
UNITED CONC. PIPE CO.	LITTLE MORONGO SIPHON	0.13	2-27-34	8-20-34
M.W.D.—FORCE ACCT. GRIFFITH COMPANY	FAN HILL COND. & SIPHON SCHEDULE NO. 20-C	0.32	10-21-33	11-19-34
		1.33	5-3-35	9-14-35
	TOTALS	1.78		

Swanman To Head Employees' Ass'n.

George Swanman was elected president of the Metropolitan Water District Employees' Association Tuesday at the first meeting of the new Governing Board of the Los Angeles office. Mr. Swanman succeeds Gregory D. Smith.

C. G. Olson was chosen secretary-treasurer of the organization, succeeding Miss Olga Moehlman.

Check And Double Check

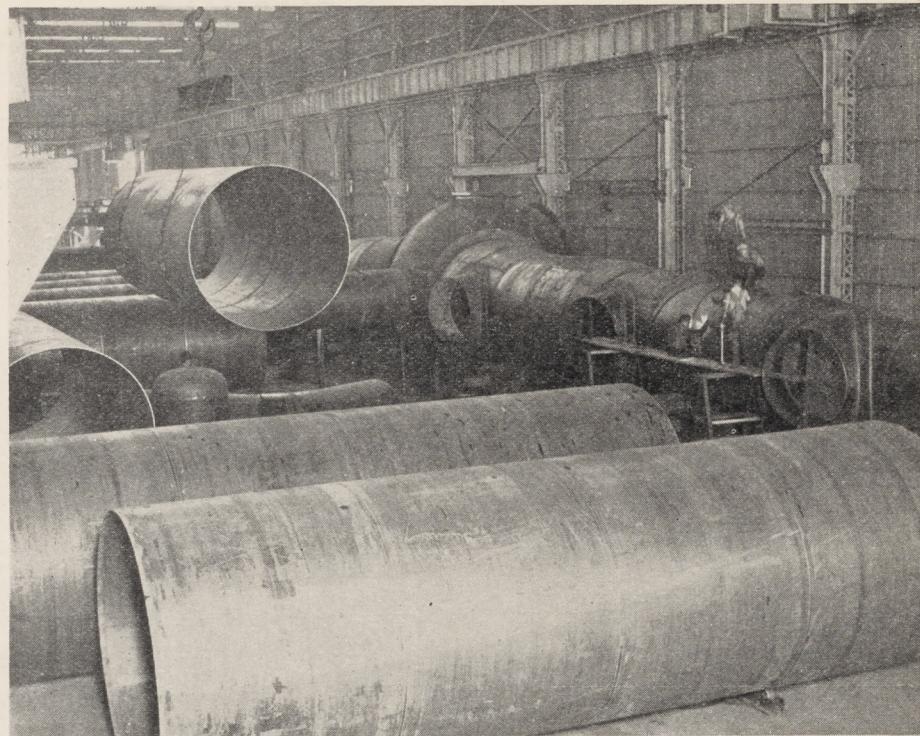
(Continued from Page 3.)

the 13-mile San Jacinto tunnel, and the Boulder Telephone and Transmission line force located at Needles, are paid on the 10th and 25th day of each month. The Coachella Division construction forces are paid every other Friday, at which time they close down until the "graveyard" shift comes on at midnight the following Sunday.

The pay rolls are made up along the 300 miles of territory from the Colorado River to Los Angeles by the time-keepers of each division, and at the close of each two-week period they are sent to the Accounting Division to be checked with the employee's account. They are then forwarded to the Controller's Division for auditing and then are sent to the Chief Engineer and General Manager for approval. After all this has been done, they are delivered to the Disbursing Division where the checks are written, signed and made ready.

At intervals, the officer in charge of the Disbursing division assumes the role of "Paymaster" and goes to the field with four or five assistants to make personal delivery of the checks. This is done to guard against any error that might creep in. In the field, each employee is provided with a badge, with his identification number on its face. When the employee calls for his check, he must present his badge before the paymaster will deliver his check to him. Each check bears the identification number of the employee, as well as his name, and the amount of his earnings for the period.

Pay-day is the big day along the route of the Aqueduct. All are eager to receive their pay-checks. In the camps the men form in line to await their turn to reach the paymaster. Each man comes up with a good word and a smile.



This scene, in the Los Angeles plant of the Consolidated Steel Company, shows two types of aqueduct structures under construction—10 foot 6 inch diameter pipe line sections of the distribution system (in the foreground) and the inlet manifold which will be installed in the Gene pumping plant of the aqueduct system.

LOS ANGELES STEEL PLANTS BUSY WITH FABRICATION OF NEW AQUEDUCT STRUCTURES

Giving a practical demonstration of how industry in Southern California is being stimulated by construction of the Metropolitan Water District Aqueduct, workmen in the Los Angeles plant of the Consolidated Steel Company are busy with the fabrication of two types of aqueduct structures—which ultimately will find their way to the two opposite ends of the aqueduct line.

One type is the 10 foot 6 inch diameter steel pipe line sections which are being used on Schedule 2 of the aqueduct distribution system. Consolidated is fabricating these as a sub-contractor for the Western Pipe & Steel Company in whose own plant work also is being done.

The other aqueduct structure on which work is going forward in the Consolidated plant is the inlet manifold which will be installed in the Gene pumping plant near the eastern end of the aqueduct line. This unit will be used to feed water to the nine pumps which ultimately will be housed in the pumping plant.

Two hundred and five feet long and

weighing 190,000 pounds, it will be taken apart and shipped in pieces to its final resting place, where it will be reassembled.

In all, four of the big manifolds will be built for four of the aqueduct pumping stations that will lift Colorado River water on its journey from the river to the thirteen member cities of the Metropolitan Water District. The fifth plant, at the aqueduct intake, will be provided with a different type of inlet arrangement.

Another inlet manifold, similar to the one being built by Consolidated, is under construction at the plant of the Western Pipe & Steel Company at the present time. It will be installed at the Iron Mountain plant.

The pipe line sections, on which work also is going forward at both the Consolidated and Western plants, will be laid along approximately ten miles of the aqueduct distribution system. Each section weighs approximately 33,000 pounds, and a total of about 60,000,000 pounds of steel is involved.

NEWS FROM FIELD AND OFFICE

Capt. Robert M. Baughey, who used to be connected with the Banning office of the District and was well known among "aqueducters" all the way from L. A. to the river, is now editor of the California Conservationist, a monthly magazine published by the State Department of Natural Resources. The publication is devoted to the conservation of fish and game, state parks, mining, oil and gas. Bob, a veteran newspaperman, spent the past two years, since leaving the District, on the editorial staff of the Los Angeles Examiner.

* * *

A recent aqueduct visitor was Philip S. Donnell, dean of the college of engineering at Oklahoma A. & M., who spent three days along the line between Banning and the river. Dean Donnell used to be associated with Assistant General Manager Burkholder, so his aqueduct visit was in the way of a reunion as well as a tour of engineering works.

* * *

At Parker dam excavation for the dam abutments and the building of the construction roads and dikes at the Arizona end of the upstream cofferdam are going forward. The cableway is approximately 30 per cent completed. Excavation for the spillway approach is reported more than 90 per cent completed.

* * *

Sealed proposals for furnishing 230-kv and 69-kv disconnecting switches, and insulator bus supports, will be received by the District on August 13, it was announced this week. A total of 36 switches and 263 bus supports are involved in the order.

* * *

Progress reports from San Jacinto tunnel include the information that Mr. and Mrs. Harry Jackson became the proud parents, on June 26, of an eight and a half pound baby girl. Mrs. Jackson and the youngster are doing nicely. Harry is slowly recovering.

* * *

"High-Speed Paving for California Aqueduct" is the title on an article appearing in a current issue of the Scientific American. The story, written by Andrew R. Boone, deals with the use of concrete and concreting equipment on the aqueduct project.

* * *

Concrete Inspector Frank E. Martin, formerly of Division 3, is now working out on Division 2.

Aqueduct Temperatures

June 15 to June 30, 1936

	Max.	Min.
Div. 1	117°	77°
Div. 2	116°	78°
Div. 3	114°	79°
Div. 4	110°	77°
Divs. 5 and 6	106°	52°

Inspector Fred T. Jenkins, formerly on Division 6 of the main aqueduct, has been transferred to the distribution division.

* * *

Attesting to the international interest in the aqueduct project is a series of two profusely illustrated articles which appeared recently in the British magazine called Engineering.

* * *

It isn't Miss Gertrude Kellner of the stenographic department of the Los Angeles office, anymore. It's Mrs. David Ramsay. The wedding was June 6 in Santa Barbara, and the newlyweds enjoyed a three-week honeymoon trip to Vancouver, British Columbia.



Introducing smiling A. J. (Tony) Slanga, Beau Brummell of the Banning Office and points north, east, south, and west. Tony is General Clerk, senior grade, with the Banning force.

That R. W. Remp, general superintendent, Dravo Contracting Company, on the Valverde tunnel, has latent literary talents was proved recently when he appeared as the author of an article on safety work in the California Safety News. The article was reprinted last week in the Southwest Builder and Contractor.

* * *

Prof. Royal W. Sorensen of California Institute of Technology, who has been connected with the aqueduct project several times as a consultant, is one of the newly elected directors of the American Institute of Electrical Engineers.

* * *

"Aqueducters" whose work takes them to Indio and beyond will be interested in the announcement that another hazard to traffic is soon to be eliminated with the completion of an overpass across the Southern Pacific tracks northwest of Indio.

* * *

Mr. and Mrs. C. Howard became the proud parents, on June 23, of an eight and a half pound baby girl. Mr. Howard is employed at Potrero shaft on San Jacinto tunnel.

* * *

Theron M. Atherly, formerly an instrumentman on the Boulder Dam-Aqueduct transmission line, has been transferred to the distribution division.

* * *

Jack Wittman, formerly with the Mails and Files division of the L. A. office, has been transferred to the Accounting and Costkeeping division.

* * *

Frank Anding, inspector on the Iron Mountain tunnel on Division 2, has left the employ of the District to accept a position with Morrison-Knudsen.

* * *

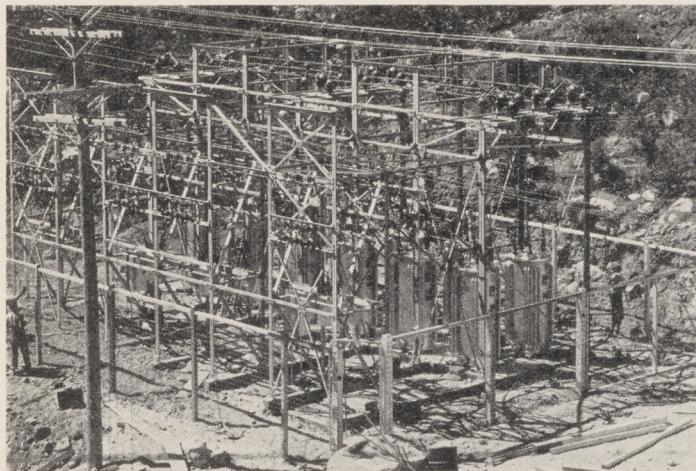
Morongo Tunnel No. 2, 1,902 feet long, and last section of the 33-mile Coachella tunnels, was holed through by District crews at the west portal at 2:15 P. M. on June 25.

* * *

Chairman Nils C. Jonsson has been transferred from the Electrical division to the Distribution division.

* * *

Miss Lorene Norton of Pasadena recently became the bride of "Tex" Kelley of the Potrero crews on San Jacinto tunnel. The newlyweds honeymooned at Catalina Island.



Here (left) is the new substation, rushed to completion at Lawrence adit of San Jacinto tunnel, and (right) the boys of the Operating division who did the job: Standing, left to



right—Parley O'Barr, Sam Thomason, B. H. Martin, "Red" Gillings; Kneeling—James Ketner, Jack Stratton, Wendall Morgan, and Hermann Foltz.

New Substation Is Completed

By W. A. MORGAN

The Operating Department comes through again! Working ahead of schedule the Operating Department forces on June 11th completed the 4000 kva substation that will furnish power to Lawrence Adit. The Operating boys were kept on their toes all the time in order to energize the substation before the power was actually needed on the job. The heavy equipment that will consume much of the power is being rapidly installed.

Since March 7th when work was first started on the Adit, B. H. Martin, Superintendent of Operations, and Foreman "Red" Gillings with his crew, have been juggling transformers, switches, poles, and other power equipment between the camps and plants at completed work and the new scene of battle against San Jacinto Mountain. Two separate transmission lines have been constructed to the Adit to insure continuity of service, and a portable substation which is mounted on a trailer was put in service to take care of the power demands prior to the completion of the new substation.

This new 400 kva substation is unique and different from the others on the Power System in that it may be added to, should a large demand for power develop. There is enough room on the ledge that was carved out of the mountain to support two more steel racks similar to and adjoining the one shown in the picture.

Although generally classed as "non-producers" the Operating Division is rarely found without a construction program afoot in at least one of its branches.

Who's Who On the Aqueduct

(Another of a Series of Short Biographies of Aqueduct Personalities.)

JOHN STEARNS

Div. Eng., Div. 3

Born at Elizabeth, New Jersey . . . Received degree in civil engineering at



John Stearns

Cornell in 1906 . . . During 1908-10 was transitman, chief of party, and finally Division Engineer on L. A. Aqueduct . . . From 1911 to 1916 was construction superintendent on various large buildings, bridges, wharves, etc. . . . Was resident engineer on construction of foundations for Woolworth Building in New York City . . . Spent most of time during 1912-23 with J. G. White Engineering Corporation as construction supervisor on large hydroelectric projects . . . From 1926 to 1932 was in building business in Detroit and Los Angeles . . . Has been with M. W. D. since 1933.

W. E. WHITTIER

Div. Eng., Div 1

Graduated with B. A. degree from Stanford in 1901 and received degree of Engineer of Mines from Columbia in 1904 . . . From 1910 to 1912 was with Reclamation Service at Sunnyside, Yakima, and Cle Elum, Wash. . . . During 1912-16 was assistant engineer, L. A. Bureau of Engineering . . .



R. C. Booth

Was office engineer for Wm. E. Hampton Company during 1916-18 and spent 1918-20 with the U. S. R. R. at El Paso . . . From 1920-29 was engineer of construction for Union Oil Co. . . . Joined M. W. D. in 1930 and supervised preliminary locations and design of aqueduct distribution system.

R. C. BOOTH

Div. Eng., Div. 4

Received degree in civil engineering from Cornell in 1911 . . . From 1911 to 1918 was with Southern California Edison Company . . . After year with U. S. Indian Service, spent 1919-29 with Edison Company as division engineer through 10-year program which made possible peak capacity of more than 500,000 horsepower of electrical energy . . . During latter half of this period was also general superintendent on numerous power houses, dams, tunnels and transmission lines . . . Spent 1930-31 as general superintendent for Phoenix Utility Co. . . . During 1931-32 was in Valparaiso, Chili, as general construction superintendent on generating plant. Was field construction superintendent for contractor on Madden dam in Panama, '32-'33. Has been with District since '33.



W. E. Whittier